INFORMATION

ALLEY

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Inside Information...

About the *Information Alley*

The *Information Alley* ™ is a publication of Apple Computer, Inc., Support Information Services. The goal of the *Information Alley* is to help you get full use of your Apple computers, peripherals, and software.

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Submissions and Letters

We welcome articles that help Apple computer users become more knowledgeable about the functionality of their systems, explain or illustrate complex features or functions, or that describe technical tips or techniques. Send submissions to:

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We also welcome letters to the editor and suggestions for future articles. Please send all letters to the preceding address.

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The *Information Alley* is produced using FrameMaker 4.0 on a Power Macintosh running System 7.5.

How Do We Do It?

By Janet Christian

I am frequently asked these questions by *Information Alley* readers:

- How do you publish so frequently; how many people work on production/editing?

- How do you manage to include graphics, tables, etc. and still keep the magazine so small?

For those who are interested, here are my responses.

Publishing Frequency and Staff

First, we have a magazine production/ editing staff of one...me. The writers and online group provide a tremendous amount of support (writing articles and verifying technical facts), but I am the only one responsible for the actual production and editing of the magazine. Each issue takes me around 3-4 days to edit (this does not count writing time for the articles; I'm referring only to production time here). If I also had to write all the articles and verify technical facts, I could not handle a bi-weekly publishing schedule.

I use FrameMaker 4.0 on a Power Macintosh to do the actual production work. In FrameMaker, I've pre-defined the overall template, paragraph formats (tags), title bars, page layouts, etc.

I use Adobe Photoshop to modify, clean-up, or alter graphics – which are typically standard "clip-art" graphics from a variety of floppy disks and CD-ROMs I have. I do not create original graphics, although I do make modifications or even merge multiple clip-art images into one.

Magazine Size

I've been told that, compared to other online magazines, the *Information Alley* is quite small – only a few hundred K instead of the multi-megabytes of some others. The second question is from several people who want to also produce a fully-formatted magazine that is space-conservative. Here are some tips and tricks I use to accomplish this:

- All multi-column tables are integral to Frame; they are not spreadsheet documents. Therefore, their size is comparable to standard text.

- Black and white graphics are 72 dots per inch, since that is standard monitor resolution. They are also bitmap format. I only use grayscale format for images that truly need this level of separation.

- Color graphics are set to Indexed Color (in Photoshop), rather than RGB Color. Most color clip-art comes formatted as RGB Color (full color spectrum). Using Photoshop to convert to Indexed Color (only colors used in the graphic) can save me from several hundred bytes to several megabytes *per image.*

- I create color titles and borders, and simple "box" graphics (like the one on page 14) using FrameMaker, rather than a graphic art package.

- I limit the number of different fonts I use, which can increase the size of the online image (especially since I imbed fonts in the online-readable versions).

The Macintosh Processor Upgrade Card

By Mark Hansen

The Macintosh Processor Upgrade is a card that upgrades 68040 systems to the PowerPC micro-processor. It is available for the Macintosh Quadra 605, Macintosh LC 475, Performa 47x, Macintosh LC 57x, Performa 57x, and the Performa 630 series of computers

The Macintosh Processor Upgrade does not support speech recognition. The Macintosh Processor Upgrade must be installed by an authorized Apple Service Provider as installation requires a CPU extraction tool.

Featuring a PowerPC 601 microprocessor running at either 50MHz or 66MHz (the upgrade runs at double the speed of the computer's existing microprocessor), the upgrade card is expected to boost performance up to two to four times on existing Macintosh models when running applications optimized for Power Macintosh. Applications employing floating point functions, such as graphics programs, may enjoy a performance boost of up to 10 times.

This new upgrade includes 256K of cache, and lets you switch back and forth between the PowerPC 601 and 68040/68LC040 processors upon restart.

Features of Macintosh Processor Upgrade Card

Power and speed

- Includes PowerPC 601 microprocessor with floating-point processor and 32K cache

- Doubles the processor speed of your Macintosh computer

- Includes 256k level-2 cache

Compatibility

- On-board Power Macintosh ROM

- Runs programs written for Power Macintosh

- Runs Macintosh programs

- Runs MS-DOS and Windows programs (with third-party SoftWindows software).

Alternate Route • Darren Conrad
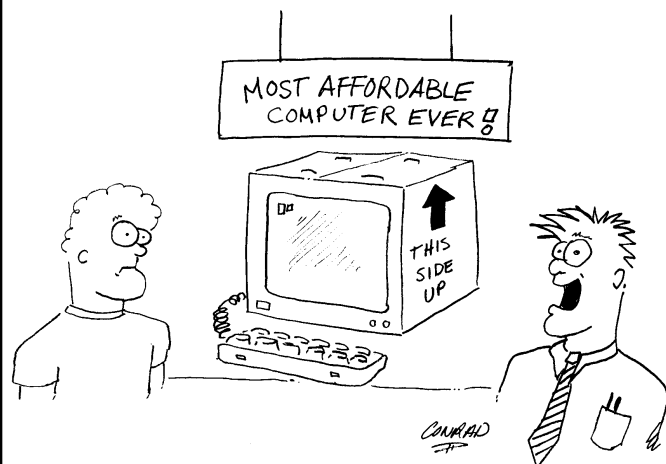
"The box IS the computer...
and the keyboard is biodegradable!"

Preventing Your Hard Disk From Mounting

By Scott George

For support troubleshooting, sometimes it is necessary to disable the mounting of the internal hard drive. In most cases, you can bypass the mounting of the hard disk using the **⌘-Shift-Option-Delete** keyboard combination.

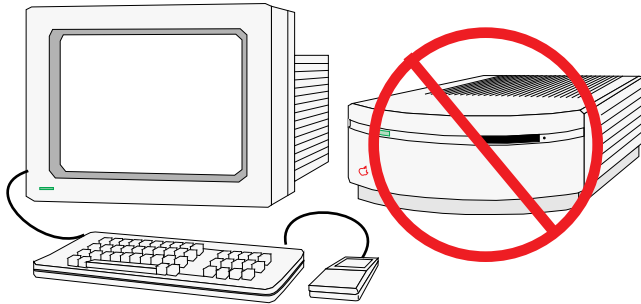**⌘** (**Command**)-**Shift-Option-Delete** (CSOD) actually prevents the default boot drive, the drive selected in the Startup Disk control panel, from loading its driver. This should prevent the drive from mounting, but there is a patch that can affect this process.

The CSOD key sequence was originally implemented so corrupt drivers could be replaced on the drive. It is possible for the driver to become corrupt, so even if the drive is not the boot drive, mounting it may cause the Macintosh to crash. Without being able to prevent the driver from loading and the drive from mounting, the only way to replace the driver is to remove the power cord from the drive before booting and reconnect it once the Macintosh has booted. This is difficult to do with internal drives.

When Apple started producing faster computers with bigger hard drives, some of the larger hard drives took longer to spin up. This caused the drives not to mount during the boot process. A patch was placed in System 7.0.1 and later that corrected this problem.

This patch maintains a list of which SCSI IDs have drives connected in Parameter RAM (PRAM). The patch is utilized later in the boot process. First it checks to see which SCSI IDs have drives attached. If it finds an ID that has a drive, but the driver is not installed, the patch loads the driver and mounts the drive. So, the CSOD shortcut prevents the driver from loading and the drive from mounting, but the patch loads the driver and the drive mounts anyway.

If you really do not want the drive to mount, you can reset PRAM (**⌘-Option-p-r**) and use the CSOD in the same boot. (Release the **⌘-Option-p-r** key sequence after you hear the chime and immediately hold down the CSOD key sequence).

This process works because the list of drives is cleared when PRAM is reset. The hard disk only mounts when the computer is restarted and the CSOD shortcut is not used.

Note: This process does not work with the Quadra 700.

Tips and Tidbits

Adobe Photoshop 3.0

As with many About options, hold down the Option key to see the Secret About Box. This box credits Knoll Software.

Hold down the **⌘** (Command) key while selecting About Photoshop to see the Double Secret About Box; your host – Merlin T. Wizard. This box lists the developers and others who helped during development. It also includes a cute graphic. [Contributed by Matthew Strange.]

System 7.5 – Extensions Folder Contents

By Mark Hansen

An extension is a relatively small file that modifies the operation of your Macintosh. Unlike a control panel, you typically do not have any direct interaction with an extension. It makes the appropriate modification when your system starts up and remains present until it is shut down.
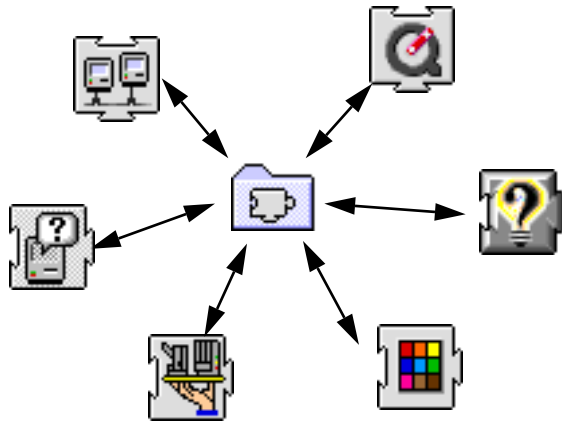
The following is a brief description of the contents of the System 7.5 Extensions folder. The contents of your Extensions folder may vary. You can use the Extension Manager (EM Extension) to disable any of the following extensions, if you do not need them to be active on your system.

The Extension Manager

EM Extension

The Extension Manager extension lets you control which extensions load when your computer starts up.

The Extensions

The System 7.5 extensions are listed in alphabetical order:

A/ROSE

Allows communication between the Macintosh main logic board and Macintosh Coprocessor Platform (MCP) based NuBus cards which run the Apple Real-Time Operating System, such as Apple Token Ring 4/16 NB card or the Apple Serial NB card.

About Apple Guide

This is the guide file which provides information about Apple Guide. When in the Finder, you can read the contents of this file by selecting About Apple Guide under the question mark icon in the upper right corner of your screen.

Apple CD-ROM

This is the driver software for any installed Apple CD-ROM drive.

Apple Guide

Apple Guide is Apple's integrated help system.

Apple Photo Access

This is part of the CD-ROM software which lets you view Kodak PhotoCDs.

AppleScriptLib

AppleScriptLib implements the AppleScript Open Scripting Architecture (OSA) component.

AppleScript™

AppleScript provides you with the ability to automate repetitive tasks within scriptable applications.

AppleShare

AppleShare is the software which lets you have access to shared network volumes through the Chooser.

AppleTalk ImageWriter

This is the printer driver for a networked ImageWriter printer.

Audio CD Access

This is part of the CD-ROM software that lets you play audio CDs through your internal or external CD-ROM drive. It requires the AppleCD Audio Player or equivalent to control the CD.

Assistant Toolbox

Base extension for Auto Remounter (for PowerBook comptuers), allows file synchronization, battery management, and easy mobile computing. Provides support for "Persistent RAM disk" and deferred printing. Has a conflict with the Select 310 printer driver, and can block printing. The workaround is to turn off background printing.

Caps Lock

Provides caps lock function for PowerBooks (the keyboards do not have Caps lock key). When the caps lock function is active, an "up" arrow is displayed in the menu bar next to the Balloon Help icon.

Clipping Extension

Lets Drag & Drop create clipping files on the desktop.

Color Picker

Color Picker is a tool that presents a standard interface for color selection. With this dialog, any application can ask the user to choose a color.

EtherTalk Phase 2

This is the driver software that lets a Macintosh connect to an Ethernet network.

File Sharing Extension

File Sharing lets you share part or all of your hard drive so others on a network can access it.

Find File Extension

The Find File extension enables the enhanced Find File desk accessory.

Finder Help

Provides the support for Balloon Help for the Finder.

Finder Scripting Extension

Provides support for scripting of the Finder through AppleScript.

Foreign File Access

This is part of the CD-ROM software that lets you mount non-Macintosh file system CDs such as ISO 9660 or High Sierra formats.

High Sierra File Access

This is part of the CD-ROM software that lets you view non-Macintosh file system CDs created in the High Sierra format.

IIci/IIsi Monitors

Hardware specific information for the Monitor Control Panel that describes the capabilities of the built in video card for the IIci and IIsi.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor Control Panel may not be available (gamma settings, for example).

ImageWriter

This is the ImageWriter print driver.

ISO 9660 File Access

This is part of the CD-ROM software that lets you view non-Macintosh file system CDs created in the ISO 9660 format.

LaserWriter 8

This is the LaserWriter print driver version 8.

MacinTalk Pro

Lets a Macintosh computer read text documents in human-like voices.

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Macintosh Guide

Apple Guide database describing Macintosh.

MacTCP Token Ring Extension

For customers who have standardized on TCP/IP over Token Ring.

Mailbox Extension

Provides Mailbox support under PowerTalk.

My Speech Macros

Support for Speech Macro Editor.

Network Extension

Used by Personal File Sharing to select network options.

ObjectSupportLib

ObjectSupportLib is a library developers use to implement the OSA object model. For example, how to refer to a word of a paragraph of a document.

Personal LaserWriter SC

This is the Personal LaserWriter SC print driver.

PowerBook Guide Additions

Apple Guide database describing PowerBook related topics.

PowerBook Monitors Extension

Hardware specific information for the Monitor Control Panel that describes the capabilities of the Video system for the PowerBooks.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor Control Panel may not be available (gamma settings, for example).

PowerPC Finder Update

Extends the width of the "About This Macintosh" dialog box (under the Apple Menu). This extension prevents the Macintosh Name from being clipped. The names of the Power Macintosh computers are longer than the standard Macintosh names, and part of the name was not displayed in the standard About This Macintosh dialog box.

PowerPC Monitors Extension

Support for AudioVision 14" Monitor.

PowerTalk Extension

Provides support for the PowerTalk services. Also has information that the keychain uses.

PowerTalk Guide

Apple Guide database describing PowerTalk.

PowerTalk Manager

Provides management of the AOCE Mailbox and services.

Printer Descriptions

This folder contains descriptions for a multitude of printers which are used by the LaserWriter 8 driver.

Printer Share

Provides the ability to share non-network printers (like StyleWriter II), across a network.

PrintMonitor

PrintMonitor handles the printing process when you have Background Printing enabled.

Quadra AV Monitors Extension

Hardware specific information for the Monitor Control Panel that describes the capabilities of the built in video card for the Quadra & Centris AV systems.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor

...Continued from previous page

Control Panel may not be available (gamma settings, for example).

Quadra Monitors Extension

Hardware specific information for the Monitor Control Panel that describes the capabilities of the built in video card for the Quadra & Centris Computers.

Removing this file has no effect on the ability of the Macintosh to use the built-in video card or the ability to select the bit depth, but options that are found in the "option" section of the Monitor Control Panel may not be available (gamma settings, for example).

QuickTime™

Lets you play QuickTime movies within any application which supports QuickTime.

QuickTime PowerPlug

Native version of QuickTime for Power Macintosh computers.

QuickTime Musical Instruments

Supports 30 Roland Standard MIDI sound samples that can be accessed by QuickTime applications with no additional MIDI equipment.

Scripting Additions

These extend the AppleScript language with special features, such as finding the date or time of day. With scripting additions installed, AppleScript acts as if these features are part of the language. Scripting additions are required only when a script uses them; many scripts use them.

SCSI Manager 4.3

This is an update to the driver software used by the Macintosh to access hard drives. (Not required for Power Macintosh computers; should be removed from Power Macintosh Extensions folder.)

Shortcuts

Apple Guide database describing Finder Shortcuts.

Speech Guide Additions

Mix-In for Apple Guide describing speech.

Speech Recognition

Provides support for Speech recognition.

SR Monitor

Extension used to monitor and interpret speech.

StyleWriter II

This is the print driver for the StyleWriter II.

System Speech Rules

Supports the voices/dialect of speech.

TokenTalk Phase 2

Driver for Token Ring Card.

TokenTalk Prep

Support for TokenTalk Phase II.

Video Guide Additions

Mix-In for Apple Guide describing Video.

WorldScript™ Power Adapter

Support for Language Kits on Power Macintosh computers.

Tips and Tidbits

System 7.5 – Secret About Box

To get a neato "BreakOut"-like game, type the following words in a Drag and Drop savvy application (such as SimpleText):

secret about box

Highlight and drag these words to the desktop; the secret game magically appears. Click on the desktop to make the game go away. [Contributed by Bill Dennen, Macintosh Applications Specialist.] (Bill was the first to send in a **Tip and Tidbit** since my request for them in Issue 15 – Thanks, Bill!)

The Apple Redundant Array of Independent Disks (RAID)

By Fred Widmer

The Apple Redundant Array of Independent Disks (RAID) software is a method of using multiple disk drives and multiple SCSI buses to increase the reliability and/or performance of disk subsystems.
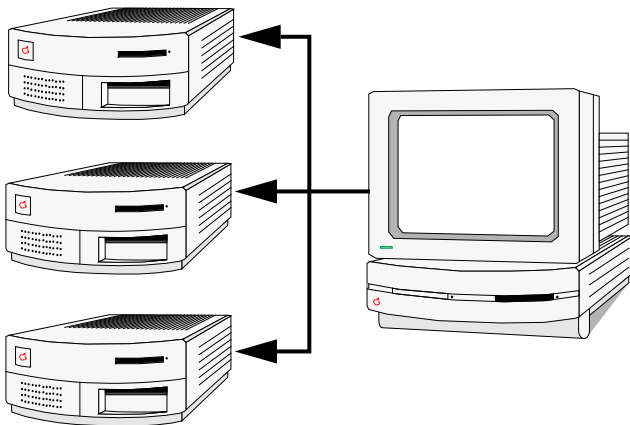
Overview

There are several RAID levels available in the commercial market today. The most well known RAID levels are from 0 through 5, but other levels are emerging. Each level has its unique set of features and appropriate uses. Apple RAID Software provides RAID levels 0 and 1 (described later in this article), and was designed specifically for Power PC-based Workgroup Servers, and provides three main features for the PowerPC-based Workgroup Servers:

- Reliability: improve server fault tolerance (RAID 1, mirroring).

- Performance: increase system performance (RAID 0, striping).

- Ease of Use: Simple graphical interface, with drag & drop features.

The Apple RAID software has three main parts:

- Apple RAID Monitor extension

- Apple RAID Driver

- Apple RAID Application

Apple RAID Monitor extension

The Apple RAID monitor is loaded at startup and monitors the condition of Apple RAID formatted disks. If a failed disk is detected, the monitor extension receives an error notification from the disk and notifies the user on the server's local desktop. (Currently, remote notification of failed disks in not available in this version of Apple RAID.)

Apple RAID Driver

The Apple RAID Driver has two main parts:

- One part is loaded with the system software at startup and acts as the interface between an application's request for data and the SCSI Manager.

- The other part is loaded onto each disk formatted by Apple RAID and interprets commands from the SCSI manager and a disk's SCSI firmware.

For example, when an application writes data to a mirrored volume, the Apple RAID Driver converts this command into two identical write commands for the

SCSI Manager, one write command to each of the two disks with partitions for the mirrored volume. If the application is reading from a striped volume, the Apple RAID Driver reconnects the data stripes from each disk into the appropriate form for the requesting application.

At the disk level, the Apple RAID Driver monitors the status of each disk and reports various error conditions to the Apple RAID application.

Apple RAID Application

The Apple RAID application is the main interface as seen by users. It provides information about the type and location of connected hard disks, the created RAID volumes, and provides users the ability to create, manage and repair volumes.

Apple RAID currently does not support SCSI/NuBus cards for additional SCSI buses, and actively attempts to turn off disk caching for connected disks. Also, Apple RAID checks to see if the system was shut down in a controlled fashion and if a mirrored volume is "out-of-synch".

RAID 1 – Mirroring

Because reliability and data integrity are main concerns for server administrators, Apple RAID implements RAID 1, commonly referred to as mirroring. This implementation of RAID 1 occurs at the partition level rather than mirroring a complete disk drive. This lets you create multiple partitions on the same set of physical disks, and therefore, use those disks for different types of data needs.

To create a mirrored volume, Apple RAID creates duplicate copies of information on two equally sized partitions on two separate physical disks. During a write operation, the identical information is put on both disks. For read operations, all data is taken from the "primary" disk. If either disk fails, the other disk continues to process I/O, and all reads and writes occur on the surviving disk.

This feature provides a significant increase in a system's overall fault tolerance. An additional benefit of mirroring with Apple RAID is support for disk duplexing – where the mirrored disks are connected to different SCSI controllers and are attached to the host system with physically separate cables. This feature tolerates not only a disk failure, but also a failure of a SCSI controller or a cabling system. This capability is known as SFT II (System Fault Tolerance) in NetWare.

Apple RAID also provides the system administrator protection against data on two mirrored disks from becoming different or "out-of-synch". If there is a power failure between writes to disks containing a mirrored volume, it is possible (but unlikely) that different information could exist on the two mirrored partitions. This might occur if the system was not shutdown in a controlled manner (that is; not using the **Special/Shut Down** command).

If something like this occurs, then after a restart, the user is warned that the mirrored volume may be "out-of-synch". Under these conditions, the system software cannot conclusively determine which disk (if either) may have incorrect data.

If this warning appears, Apple RAID lets users either "resynch" the two disks, or split the mirrored volume into two separate HFS volumes, and manually determine which disk has the best information. From here, users can recreate a mirrored volume from the HFS volume with the best information. The detection recovery options for "out-of-synch" mirrored volumes is a significant benefit to customers requiring a high data integrity.

In summary, Apple RAID software's implementation of RAID 1, or mirroring, is very flexible and provides you with broad protection against disk failures.

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RAID 0 – Striping

A second benefit of Apple RAID is potentially increased system performance through disk striping. A striped volume is created by spreading data across multiple disks (up to four) and multiple SCSI buses (up to two on the Workgroup Server 8150 and 9150). Instead of an I/O transaction occurring sequentially on one disk spindle, as with a normal HFS volume, striping allows for parallel access to disks in a striped volume. This may result in faster I/O transactions and/or greater data throughput. However, many factors effect the performance of a striped volume including:

- Type of disk drives.
- Software application being used.
- Size of the I/O transaction (in bytes or blocks).

For example, a graphics/imaging customer who consistently moves large sequential files (10+ MB), would configure their striped volume differently than a database user who may require many small I/O transactions (about 8 KB per I/O).

Apple RAID gives you the ability to control the size of each I/O transaction with a parameter called "Stripe Unit Size". There has been little investigation into optimizing the performance of a striped volume for different applications.

Refer to the following publications for additional information about RAID technology:

- *RAID: An Introduction to Redundant Array of Independent Disks* by: Apple Computer, World Wide Performance Systems, May 1994.

- *The RAID Book: A Source Book for RAID Technology* by: The RAID Advisory Board, Lino Lakes MN, June 1993, 1st Edition.

What is GPi and What Systems Support It?

By Kevin Brooks

Pin 7 of the serial port on some Macintosh models (see the list at the end of this article) isn't connected to the main logic board, which is an intentional design. This causes a problem running a super-fast modem, where the handshaking that the GPi (General Purpose Input) line provides is needed.

Some Macintosh models utilize a custom Apple chip (the Apple Combo Chip) for serial communication functions. The chip combines the functions of the 8550 (SCC) and the 53C80/53C96 (SCSI) into a single chip. This chip does not have GPi capabilities, so the computers that use it have no GPi functionality.

Macintosh Models Affected

The Macintosh models affected are:

- Classic, Classic II, Color Classic
- Macintosh LC, LC II, LC III, LC 475, LC 520, LC 57x family
- Performa 200, 400, 405, 430, 450, 600
- Macintosh IIsi
- Macintosh IIvx, IIvi
- Quadra 605
- Macintosh Centris/Quadra 660AV
- Macintosh Quadra 840AV
- All Power Macintosh models
- Macintosh 630 family

  The following computers are in the Macintosh 630 family: Performa 630, Performa 635, Performa 636, Performa 637, Performa 638, LC 630, and Quadra 630.

Apple Presentation System
Frequently Asked Questions

Provided By Focus Enhancements

This article includes common questions with the L•TV Portable Pro made by Focus. This is the same device as the Apple Presentation System.
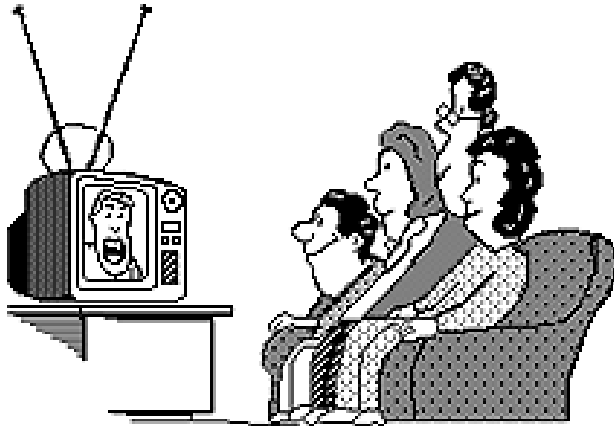
Q: With which Macintosh Computers does the L•TV Portable Pro work?

A: The L•TV Portable Pro works with any Macintosh that has a VGA or Apple 13/14-in. RGB output. This list includes (but is not limited to) any PowerBook with VGA or Apple 13/14-in. RGB output, Macintosh LC, Performa 400-600 models, Centris, Quadra, or other Macintosh systems with VGA video out.

Q: Can I give my presentation on the TV and my Apple monitor at the same time?

A: Yes. The L•TV Portable Pro supports Presentation Mode (mirror mode) when using an Apple 13/14-in. monitor, or a VGA compatible monitor.

Q: Can I record to video tape using L•TV Portable Pro?

A: Yes. If your VCR has a video input jack, you may connect the L•TV Portable Pro output to the input of the VCR. Record as you normally would record off the television.

Q: Does the L•TV Portable Pro slow my computer down?

A: No. The L•TV Portable Pro is connected to the built in video of your Macintosh, so the television acts as if it were an Apple monitor.

Q: What kind of TV do I need to display with L•TV Portable Pro?

A: Any NTSC or PAL compatible television. This includes most televisions that are manufactured for use in the United States, Japan, and Europe.

Q: Does L•TV Portable Pro come with cables?

A: Yes. The L•TV Portable Pro comes with RCA, S-Video, Audio and Macintosh video connection cables. Power supply and stand are also included.

Q: How long is the supplied cable?

A: 10 feet.

Q: How many colors does the L•TV Portable Pro let me display on my television?

A: As many as your Macintosh delivers. The L•TV Portable Pro looks like a monitor to a Macintosh, and does not hinder video performance.

Q: How much does L•TV Portable Pro weigh?

A: 10 ounces.

Q: What size TV do I need?

A: Any standard NTSC or PAL television. All televisions have the same number of dots and lines on their

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screens, they are larger and smaller depending on TV size. You can use a 6-in. screen or 35-in. screen, the image is scaled to screen size.

Q: Can I hook up more than one television to the L•TV Portable Pro?

A: Yes. There are two ways to do this:

- Hook one TV to the S-video output, the other to the RCA/composite output.

- Some television/monitors have video input and video output jacks. By creating a "daisy chain" (in one TV, out to the next) you can have more than one TV hooked up.

Q: Does L•TV Portable Pro work with my PowerBook 100/140/170?

A: No. L•TV Portable Pro only works with PowerBook models that have VGA or Apple 13/14-in. RGB video output. Those models include (but are not limited to) PowerBook 160, 165, 165c and 180 models.

Q: Can I replace my Apple monitor with a television using L•TV Portable Pro?

A: Yes, but it isn't recommended. The quality of a TV picture is almost always inferior to a computer monitor. L•TV Portable Pro is an affordable way to present to classrooms or small groups on a screen that is larger than a computer monitor.

Q: Can I use L•TV Portable Pro with a projection device?

A: If the projector has an RCA/composite or S-video input you can. Some LCD screens and/or projectors have VGA and composite/S-video inputs. Use the input that generates the best quality for your presentation.

Q: Does the L•TV Portable Pro work with the Macintosh LC 575?
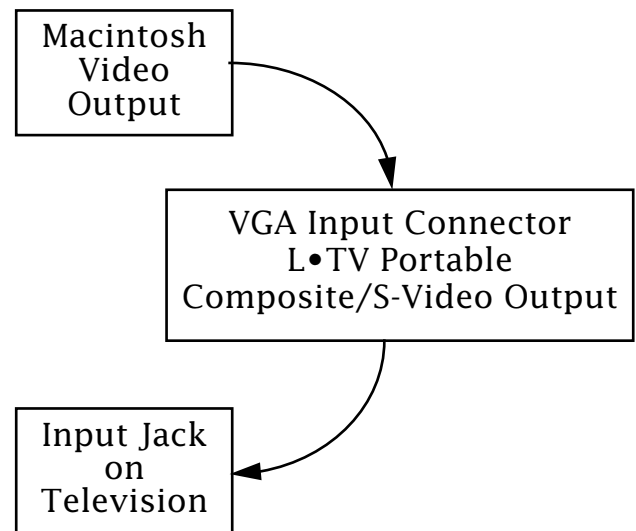
A: No. The Macintosh LC 575, Performa 575/576 do not have a VGA video output to drive the L•TV Portable Pro. The L•TV Pro LC card could be mounted in the expansion slot of the LC 575 and provides an NTSC output.

Q: Can I connect two Apple monitors to my Macintosh with L•TV Portable Pro?

A: No. L•TV Portable Pro can drive a television and one Apple 13/14-in. or VGA compatible monitor.

Q: How do I hook L•TV Portable Pro up?

A: L•TV Portable Pro comes with cables to connect in this manner:

```
┌─────────────┐
│  Macintosh  │
│    Video    │──────┐
│   Output    │      │
└─────────────┘      ▼
              ┌─────────────────────────┐
              │  VGA Input Connector     │
              │  L•TV Portable           │
              │  Composite/S-Video Output│
              └─────────────────────────┘
         ┌──────────┐     │
         │Input Jack│◄────┘
         │    on    │
         │Television│
         └──────────┘
```

Q: Does the L•TV Portable Pro work with my Macintosh IIci or Macintosh IIsi?

A: Yes. The Macintosh IIci and Macintosh IIsi are compatible with Apple 13/14-in. monitors, enabling L•TV Portable Pro to display on the computer monitor and television simultaneously.

Q: Does the L•TV Portable Pro work with MS-DOS PC computers?

A: Yes. Any PC or PC notebook that has VGA video output is L•TV Portable Pro compatible.

Q: Is The L•TV Portable Pro Windows compatible?

A: Yes, as long as the PC system that L•TV Portable Pro is connected to is able to output VGA video.

Changes with the *Information Alley* List Server

By Charlie McCabe

We recently experimented with automatically mailing issues of the *Information Alley* to subscribers of the List Server (see **New Places to Find the Information Alley** on page 17). Unfortunately, we found that nearly 30% of the mailings (of over 500 current subscribers) regularly bounced (primarily due to the fact that several commercial online services impose restrictions on downloading attachments from the Internet). In addition, we now produce the *Information Alley* in both Common Ground and Adobe Acrobat formats; we include three Common Ground formats: Macintosh miniviewer, DOS miniviewer, and no embedded miniviewer. Determining what to send to who became a bit unwieldy.

Therefore, we have made the decision to return to our original practice of sending publication notification, rather than complete issues, to List Server subscribers. Subscribers then "get" the issue or issues they want.

Getting a Specific Issue

To get a specific issue of the *Information Alley*, find out what exact filename of the issue you want.

Filenames are structured as follows:

> **infoalley.vi.iss\<number>.\<suffix>**

Where:

\<number> is the issue number

\<suffix> is one of the following:

- Common Ground – Macintosh miniviewer embedded

   .cg.sea.hqx (issues 13 and up)
   .mac.sea.hqx (issues older than 13)

- Common Ground – DOS miniviewer imbedded

   .exe.hqx

- Common Ground – no miniviewer

   .nomv.sea.hqx

- Adobe Acrobat

   .acro.hqx

   This requires the separate download of the Acrobat 2.0 reader, which requires 2.5 MB of RAM.

For example, you want the Common Ground version of the *Information Alley* issue 15 with the miniviewer embedded. The file you want is named:

> **infoalley.vi.iss15.cg.sea.hqx**

Therefore, you send the following message:

> To: **listproc@mail.info.apple.com**

> Subject: Information Alley

> Body of Message **GET INFOALLEY infoalley.vi.iss15.cg.sea.hqx**

Please note that this file is divided into five parts, so depending on your email software, you will get at least five files which you may have to join and de-binhex the file.

Downloading the Archive Index

To retrieve the latest *Information Alley* archive Index, send the following message:

> To: **listproc@mail.info.apple.com**

> Subject: **Information Alley**

> Body of Message **INDEX INFOALLEY**

Note: See **New Places to Find the Information Alley** on page 17 for the new subscriber address.

The Blinking or Flashing Question Mark

By Chris Wigginton

This article tells you what to do when you see a blinking or flashing question mark on your screen when you startup a Macintosh or Macintosh Performa computer (assuming you are using System 7.x).
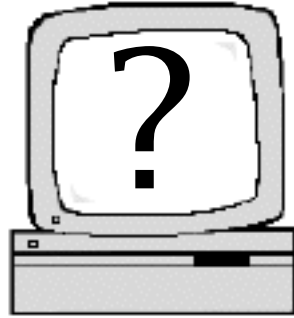
The flashing question mark indicates that the computer cannot locate the valid system software. Each of the possible causes has a specific solution.

Typically blinking question marks are caused by:

- Damaged or missing System Software
- SCSI configuration problems
- Third Party software conflict
- Corrupted PRAM
- Damaged Hardware

System Software Improperly Configured

Sometimes a System Folder is on the hard drive, but its components are not configured properly, are damaged, or there may be two or more System Folders present. Use the steps in the following table to correct this problem.

STEP	ACTION
1	Restart your system using Disk Tools (if this fails, go to the next section).
2	Open the hard disk's icon.
3	Open the System Folder. Ensure that the System and Finder are present and at the root level of the System Folder.

STEP	ACTION
4	Double-click the System file to confirm that it can open. If there is an error, perform a clean install.
5	Make sure that you have only one System Folder on your hard drive. The active System Folder icon should contain a little picture of a Macintosh. If you find an extra System Folder, move it to the Trash icon and choose **Empty Trash** from the **Special** menu.
6	If you are a Performa user, and have a previous back up of your system, turn on the computer and insert the Utilities Disk, run Apple Restore, and restore your System Software. If you have not had a chance to back up your system, contact the Apple Assistance Center (1-800-SOS-APPL) for further assistance.

Attached Peripherals (SCSI Devices) Improperly Configured

A chain of SCSI devices, called a SCSI bus, might include peripherals, such as external hard drives, CD-ROM drives, scanners, and printers, linked together with SCSI cables. To determine whether you have a SCSI configuration problem, complete the following steps:

STEP	ACTION
1	Turn off the Macintosh.
2	Turn off all attached devices.
3	Completely disconnect the external SCSI bus from your Macintosh.
4	Start up the Macintosh computer.

If your computer starts up properly, the problem is with your SCSI chain.

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Third Party Software Conflicts

If you have recently added or modified your system by adding any additional software, you may be experiencing a software conflict. If starting from Disk Tools was successful, then try restarting without Disk Tools, and hold down the **Shift** key. If this is successful, then you most likely have an Extension or Control Panel problem, and you should remove any third party software from your System Folder. You can also use the Extension Manager or another third party utility to turn off Extensions or Control Panels. If you still cannot restart from the System Folder on your hard drive (but were successful when starting with Disk Tools), then a Clean Install is recommended.

Corrupted PRAM

One of the factors that causes a flashing question mark is a corrupt PRAM or logic board setting. Steps to resolve this problem include zapping PRAM by holding down the **⌘-Option-p-r** keys at system startup. If this does not resolve the problem, you can remove the logic board battery for 10 minutes. This should only be done by an authorized service provider, since damage to the logic board is possible if not done properly.

By pulling the battery, the PRAM is completely cleared and other logic board components are reset. Causes for this corruption could be a faulty ADB device, or AudioVision displays.

Hardware Problems

If none of the preceding solves your problem, you may need to take your computer to an authorized Service Provider for repair.

New Places to Find the *Information Alley*

Here are several updates to the current locations where you can find the *Information Alley*:

- **Internet ftp site Update**

  Previous path:
  ftp → Apple.Support.Area → Apple. SW.Updates

  New path:
  ftp → Apple.Support.Area → Apple Software Updates

  The host name and IP number have not changed:

  Host name: **ftp.info.apple.com** (formerly ftp.austin.apple.com)

  IP number: **204.96.16.4**

- **The Internet List Server Update**

  The Internet List Server has a new address. To subscribe send email to:

  listproc@mail.info.apple.com

  Subject: **Information Alley**
  Body of Message: **SUBSCRIBE infoalley <your full name>**

  Refer to the article on page 15 for an update on how the List Server operates.

- **The Library BBS Update**

  The Library BBS is based in Hummelstown, Pennsylvania (Harrisburg area), not Scranton area as previously listed.

Software Installation Over a Network

By Terrie Beloin

This article tells you how to set up software on a file server for installation over a network.

This process works with many software packages that use the Apple Installer, such as At Ease and System 7, but won't work for system software versions earlier than 7.0.
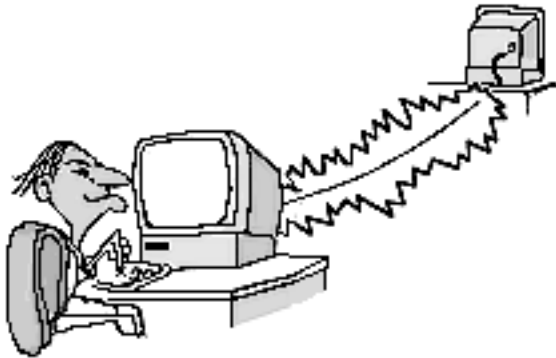
NETWORK INSTALLATION SERVER SETUP

Most software installation scripts, especially those that use the Apple Installer, specify the name and contents of each disk used in the installation.

You can substitute folders for disks, as long as their names and contents are exactly the same as the disks.

To set up a network installation, you need to have write privileges on the file server. If you can't create files on the file server, ask your file server administrator to grant write privileges, then follow these steps:

STEP	ACTION
1	Create a folder on a server volume, and give it an appropriate name, such as "System 7 Net Install".
2	Insert the first installation disk and drag its icon to this new Net Install folder. All files on the disk will copy into the new folder. Repeat this process for the remaining installation disks, except the Disk Tools disk.
3	Double-click the Net Install folder to open it.
4	Find the folder with the name of the first installation disk and open it.
5	Drag the Installer icon and the Installer Script icon to the root (top) level of the Net Install folder. If you are setting up a network installation for System 7 Pro, the instructions differ slightly from previous versions of system software. Make these changes: • The Installer and Installer Script remain inside the Install Me First folder. • Create an alias to the Installer and the Installer Script, and drag the aliases to the top level of the Net Install folder.
6	Be sure the server users have privileges to **See Folders** and **See Files** for the Net install Folder and all enclosed folders. Ask your file server administrator for help, if necessary.
7	Test the server by logging on from your own computer and running the installation.

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NETWORK INSTALLATION

Preinstallation Checklist

- It is always advisable to have a recent backup of your hard disk data. There are several software utilities available that perform this operation, or you can select the items you want to back up, and then copy them to another disk. If you can't back up your entire hard disk, at least make a backup copy of your System Folder.

- If you are installing system software, you may have a Compatibility Checker with the package. If so, run it before installing the new software. It checks all your applications and extensions for compatibility, and lets you print out the report. Remove any incompatible or questionable extensions from your System Folder. Contact the vendors of the incompatible applications for update information.

- Turn off all security software and virus-protection software, and restart. Refer to the manuals that came with the software for instructions.

- Before upgrading system software, it is advisable to check the disk for directory problems. Start the workstation with the Disk Tools disk, and Run Disk First Aid on all connected hard disks. Repair any damaged hard disks you have connected to your Macintosh.

- You may want to update hard disk drivers, especially if you are upgrading from System 6 to System 7. If you have an Apple hard drive, you should update the drivers with the version of Apple HD SC Setup that is on the Disk Tools disk. Start the Macintosh with the Disk Tools disk, open Apple HD SC Setup, and click on the **Update** button.

If HD SC Setup cannot update the hard disk driver (indicated by a "dimmed" **Update** button), consider these possibilities:

- If a third-party utility formatted your hard disk, you should obtain the latest version of the utility to update your hard disk.

- If a version of Apple HD SC Setup more recent than the version on the Disk Tools disk formatted your hard disk, don't update the hard disk drivers.

- If a System 6 version of Apple HD SC Setup formatted the drive, it may not have left enough room for the updated driver. You do not have to update the hard disk drivers. However, if you intend to use file sharing or have a Macintosh that can use virtual memory, then you need to back up the disk and re-initialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

- If the driver is corrupt, the Macintosh does not recognize the disk (that is, the disk does not show on the desktop when you start from a floppy disk). You may wish to re-initialize it with HD SC Setup. This erases the disk, so be certain you back up the hard disk first.

Installation

You can use Net Install as if you were inserting floppy disks. Connect to the shared disk that contains the Net Install folder. Double-click on the folder to open the Net Install window. Double click the Installer icon (or alias, if you are using System 7 Pro).

With Net Install, you can perform these types of installation:

- Easy install

- Custom install

- Clean system software installation

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Tell us what you think of the *Information Alley*. We want the *Alley* to be as useful for you as possible. Your feedback will help us reach this goal. Please fill out this form and fax, mail, or email it to the address at the bottom of this page.

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Were the articles interesting and informative?   YES   NO   If NO, please explain:
_____

How was the technical depth of the articles?   NOT ENOUGH   ABOUT RIGHT   TOO MUCH
Comments: _____

Did you find any specific article especially useful?   YES   NO   If YES, list which one:
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How is the frequency of the magazine?   TOO OFTEN   ABOUT RIGHT   NOT OFTEN ENOUGH
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Primary software applications: _____

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